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AIR QUALITY
PROGRAM

July 1, 2008

Mr. Brian Gustafson, Administrator
Air Quality Program
South Dakota Department of Environment and Natural Resources
523 E. Capitol
Pierre, SD 57501

Dear Mr. Gustafson:

The Iowa Chapter of the Sierra Club requests that your Department deny the application by Hyperion Refinery LLC for a PSD air quality permit. The air emissions from the proposed refinery will seriously impact people in Iowa.

Among serious problems described in the PSD application, we are especially concerned about the lack of independent monitoring of air pollution emissions. The application describes no plan for the most up-to-date air monitoring available through "Differential Absorption Light Detection and Ranging" (DIAL). DIAL is a laser-based optical method that can remotely measure the concentration of gases in the atmosphere up to 2 km distant with detection limits in the order of parts per billion. By combining DIAL measured 2D concentration maps with measured wind speed, the mass emissions of the species in a plume can be calculated. Citizens and DENR staff will have to rely on self-reported emissions by the refinery instead of an independent monitoring system that is not based on random samples. Costs for this independent monitoring should be part of the construction and operation costs for Hyperion, not an added burden to taxpayers of South Dakota and surrounding states, including Iowa.

Of great concern is the fact that coal will be used as the fuel for the power plant to run the refinery. Hyperion proposes to employ an experimental process called integrated coal gasification combined cycle (IGCC). Hyperion admits that there will not be sufficient petroleum coke to support the refinery's energy needs. They will import coal or natural gas to supply sufficient power to the refinery. Research shows that IGCC has only operated at an experimental level, not at a commercial level. They are requesting a supplementary electrical generating plant as part of their design. Using IGCC for carbon recovery above 5% (and possible sequestration) creates financial burdens that would jeopardize the financial viability of this proposed operation. This seems to be a case of "bait and switch" as the company lured citizens with promises of a greener refinery when instead they will be relying on traditional energy generation. The financial health of the project is critical for the environmental health of Union County and surrounding counties. We believe that the claims about the carbon capture process are not borne out when the heavy financial costs are factored in.

Also, because the refinery will ultimately be burning coal for its energy, significant greenhouse gases will be emitted. Based on federal and state law and regulations, your department must set emission limits for greenhouse gases in the air permit as part of the Best Available Control Technology (BACT) analysis. Although current law and regulations do not specifically list greenhouse gases as air pollutants for which

emission limits must be set, the requirements of the current law and regulations clearly include greenhouse gases.

The Clean Air Act requires a new major stationary source of air pollutants or a major modification of an existing source to comply with prevention of significant deterioration (PSD) requirements. 42 U.S.C. § 7475(a). Pursuant to these requirements, a PSD permit must include BACT emission limits "for each pollutant subject to regulation under [the Clean Air Act]" for which emissions exceed specified significance levels. 42 U.S.C. §§ 7475(a), 7479. Federal regulations provide that "[a] new major stationary source shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts." 40 C.F.R. 52.21(j)(2). The federal regulations also provide that "[a] major modification shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source." 40 C.F.R. § 52.21(j)(3).

Therefore, your department must conduct for each pollutant subject to regulation under the Clean Air Act a case specific review of relevant energy, environmental and economic considerations based on detailed information submitted by the applicant. Then, based on the BACT analysis, the permit that is issued must set emission limits for the regulated pollutants. After the decision of the United States Supreme Court in Massachusetts v. EPA, 127 S.Ct. 1438 (2007), it is also clear that greenhouse gases are air pollutants subject to regulation. Therefore, by virtue of the discussion above, a BACT analysis must be performed for greenhouse gases and emission limits established in the Hyperion permit.

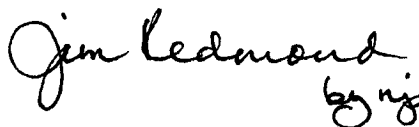
Another concern we have is the potential threat to native prairies. While Hyperion addressed the potential threat to agricultural land and crops, it failed to recognize the adverse effects this industrial pollution would have on native prairies in the area. The last and most significant remnants of native prairie in Iowa are near the refinery site. Broken Kettle Grasslands, Five Ridge Prairie, Riverside Bluffs, and Stone State Park are all in jeopardy. Our research reveals that industrial pollution from such point sources has detrimental effects on the biodiversity so essential to the survival of prairie ecosystems. See, Agrawal and Agrawal, Environmental Pollution and Plant Responses (2002).

Based on all of the concerns expressed above, we also believe an environmental impact statement should be prepared for this project. Pursuant to Chapter 34A of South Dakota Codified Laws, your agency has the authority to prepare an EIS to examine the environmental impacts of issuing a permit. The enormity and range of environmental impacts that will result from the construction and operation of the Hyperion refinery certainly justify the preparation of an EIS.

Thank you for your consideration of the points raised in this letter. Please keep us informed of any further developments.



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